

Regulating a Monopoly

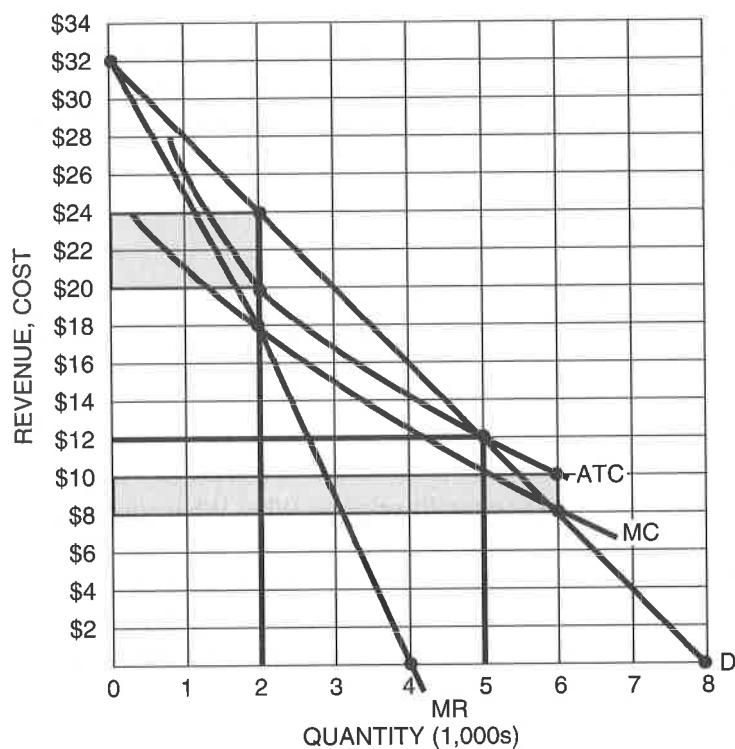
There are some firms that have decreasing marginal costs over a large range of output. As long as marginal cost (MC) is below average total cost (ATC), the firm also will experience decreasing ATC. Such firms are called *natural monopolies* and are often regulated by a governmental agency that allows the firm to be the only provider of the service. This is an attempt to take advantage of the low average total cost of the firm. This activity lets you explore several regulation plans and their effects on the firm and the market.

Suppose you are the manager of a local natural monopoly. Figure 3-14.1 illustrates the revenue and cost functions of your monopoly.



Figure 3-14.1

Revenue and Cost Functions



1. Complete Table 3-14.1, which examines three possible pricing plans for the monopoly.



Table 3-14.1

Three Pricing Regulation Plans

	Output (Q)	Price (P)	Total revenue (TR)	Total cost (TC)	Average profit (ATP)	Total profit (TP)
Unregulated monopoly	2,000	\$24	\$48,000	\$40,000	\$4	\$8,000
Fair return pricing	5,000	\$12	\$60,000	\$60,000	\$0	\$0
Socially optimal pricing	6,000	\$8	\$48,000	\$60,000	-\$2	-\$12,000

2. In Figure 3-14.1, shade in the area representing your firm's total profit under each of the three regulation plans.

For the unregulated monopoly, the shaded rectangle at 2,000 units of output shows a positive total profit of \$8,000. For the fair return pricing plan, there is no area to shade because the firm breaks even. Under the socially optimal pricing scheme, the firm's loss of \$12,000 is shown as the shaded rectangle at 6,000 units of output.

3. As the manager of this firm, which of the three regulation plans would you prefer? Why?

I would prefer the unregulated monopoly plan because it allows my firm to earn positive total profit.

4. As the manager of the firm, which plan would you totally oppose? Why? What could the government do to make this plan acceptable to you?

I would not accept the socially optimal pricing plan because it forces me to accept a price which is below my average total cost and make a loss. Since the goal of this plan is to have my firm produce the output level society desires, the government could give me a subsidy to keep my firm from making a loss.

5. Which plan would society like to see the government agency apply to your firm? Why?

Society would prefer the socially optimal output level. That plan has the firm producing the output level at which $P = MC$. This is the allocatively optimal output level society desires.

6. Under the fair return pricing plan, does your firm earn an economic profit? Does it earn a normal profit?

No, it does not earn an economic profit; it breaks even. Yes, it does earn a normal profit because its implicit costs are included in the economic costs.

7. Each of the three plans has its own rule for deciding how many units of output your firm will provide. State those rules.

(1) Unregulated monopoly: produce the quantity at which $MR = MC$.

(2) Fair return pricing: produce the quantity at which $P = ATC$.

(3) Socially optimal pricing: produce the quantity where $P = MC$.